

MASSACHUSETTS PLOUGHMAN



NEW ENGLAND

AGRICULTURE

JOURNAL OF

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LINUS DARLING,
Proprietor.
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PloUGHMAN must sign their name, not necessarily for publication, but
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Contributions intended for publication should be written on
one side only, with ink, and upon but one side

Correspondence from particular farmers, giving
the results of their experiments, etc., should be
written on one side only, with ink, and upon but one side

The PLOUGHMAN offers great advantages to
advertisers. Its circulation is large and among the
most active and intelligent portion of the com-
munity.

Rates of Advertising:

12-1/2 cents per line for first insertion.

5 1/4 cents for each subsequent insertion.

AGRICULTURAL.

A STATE appropriation of \$45,000 has
been made for the erection of a drill
hall and library building for the Rhode
Island agricultural college. The institu-
tion has thus far cost the state about
\$200,000.

SOME of our milk farmers are becoming
interested in the experiments with
the cow peat at Austerlitz. There is good
reason to hope that the early maturing
kinds will become sufficiently robust to
prove of much value in New England.
They are about as tender as beans and
should therefore be planted rather late.

Market Gardeners

NEW BOXES, TARIFF ON VEGETABLES,
AND A TALK ON MEXICO.

The Market Gardeners held the last
meeting of the season Saturday after-
noon.

BOXES.

The box committee reported that
bushel boxes of the accepted construction
could be had for seven cents, in the
shook. A carload was promptly sub-
scribed for by those present, President
Rawson having the matter in charge.
The question of the larger boxes was
deferred to the next meeting in Septem-
ber following.

TARIFF ON VEGETABLES.

President Rawson announced that he
had been in correspondence with the
framers of the new tariff bill, and had
urged that the duty be retained on vege-
tables as in the McKinley Bill. He had
been assured that the duty would be re-
tained. The Association passed a vote
endorsing the action of President Raw-
son, and a petition was at once put in
circulation as follows:

"To the Massachusetts Delegation in
Congress:—We, the undersigned, mem-
bers of the Boston Market Gardeners' Asso-
ciation, recommend the adoption by
Congress of the proposed schedule as to
the three important staples of New Eng-
land, onions, potatoes and cabbages."

The petition obtained many signa-
tures.

The concluding feature of the meet-
ing was an informal account of recent
travels in Mexico by E. N. Pierce of
Waverly. The speaker gave a very
amusing talk which was especially inter-
esting because alluding to features
not often described in books of travel.

IN MEXICO.

"In Mexico," said Mr. Pierce, "peo-
ple are civilized for about six miles from
the railways. Beyond that is a pretty
wild country. Mexico is a republic,
but not like ours. President Diaz is
the only one who has any rights. He
is the Republic."

"Hotel accommodations and sanitary
arrangements are very crude."

"Some of the soil is well adapted to
coffee, which grows taller than in
Java.

"The Cuban war has greatly stimu-
lated the tobacco and sugar industry in
Mexico."

A feature of the address was a very
clear and graphic account of a bull fight
in the city of Mexico.

A PICNIC COMING.

The Gardeners have decided to hold a
picnic some time during the first two
weeks in August.

Seeding to Grass.

ED. MASS. PLOUGHMAN: DEAR SIR:—
I have a piece of land of about six acres
in good condition to lay down to grass.
I would like to sow some Hungarian so
as to cut something on it the coming
season and would like to mix other grass
seed with it.

Will some of your subscribers please

tell me what variety of grasses and how
much of each to mix with the Hungarian
(anything but clover), also how much
Hungarian will be the right quantity
to sow, and greatly oblige

A READER.

Salisbury Heights, Feb. 15, 1897.

[Hungarian is usually sown alone. Its
growth is so thickset that other grasses
would not thrive. Sow when the
weather is warm and settled, soon after
corn planting time, three pecks of seed to
the acre. In sowing to permanent
grassland the most approved practice
is to sow no grain crop, as it lessens
the yield of the grass. But many farmers
sow oats with the grass seed.

It is not easy to give a grass mixture
without knowing the conditions. The
following mixtures are favorites in the
vicinity of Boston in cases where the
field is desired for permanent mowing
with occasional grazing, and where the
hay is intended for farm use, not for
city market.

FOR ONE ACRE.

	Light Soils.	Medium Soils.	Heavy Soils.
Italian Rye Grass	3	3	3
Perennial Rye Grass	6	6	7
Cocksfoot	9	7	7
Meadow Foxtail	2	3	3
Hard Fescue	2	2	2
Blue Grass	5	3	3
Red Top	2	3	3
Wood Meadow	1	1	1
Rough stalked Meadow	1	2	2
Meadow Fescue	2	4	4
Sweet Vernal	1	1	1
Timothy	2	3	3
Perennial Red Clover	2	2	3
Aisike Clover	2	1	1
White Clover	2	2	2
	40	43	45

These mixtures are sold ready mixed
by Joseph Breck & Sons, Boston, or
can be put up at most any seed store.
It makes a very productive and durable
mowing. If any of the varieties
cannot be obtained, the amount of
Timothy and redtop may be increased in
proportion.—ED.]

Raising Money for Roads.

Judge Thayer of Iowa has given an
address on the good roads question
which has been given wide circulation
by the U. S. Department of Agriculture
because of the value of the suggestions
it contains. Judge Thayer believes in
going into debt for good roads.

He says:

"My plan would be to borrow money
on a long-time bond at a low rate of interest
and use the taxes to pay the interest and
in due course of time the principal. To do this a great
many people will have to conquer their
prejudices and listen to a kind of reason
and argument that they turn now with
a solemn shake of the head and the
exclamation, 'No bonds, if you
please, and no debt for road building.'

CHEAP MONEY.

But people must have cheap money,
and it must be borrowed, so that the
road taxes will pay the interest, and in
due course of time the principal. My
suggestion is that the Government
establish a financial bureau for loaning
money to townships and such other sub-
divisions as the states may recognize,
to be used in building permanent roads.

The Hon. William H. Rhawn, of Phila-
delphia, one of the leading bankers of the
United States, and president of the
American Bankers' Association, thinks
a bond drawing two and one-half per
cent interest could be disposed of by
the Government at par. In seventy-
two years, with the interest invested at
two and one-half per cent, such a bond
could be paid, principal and interest,
and the total outlay would not be
more than three per cent per annum.

To illustrate: A township whose
assessed valuation is \$300,000 wants to
build 25 miles of good road at the cost of
\$2,000 per mile. Including the per
capita road tax and the usual levy, such
a township now pays, say, seven mills
on the dollar, or \$2,100 per year for
road purposes. It borrows the re-

quired \$60,000, paying for it \$1,500
per year, leaving \$600 a year for road
repairs. By the contract system
those 25 miles of road can be built in
three years or even less.

The judge's idea is to secure good
roads at the annual expense now paid
for poor roads.

English Beans.

When we examine seed catalogues we
find one variety a bean named "Broad
Windsor" in a place by itself separate
from all other kinds. Very naturally
my customers ask the reason for this.
Well, it is simply because, though a
bean, it belongs to a class essentially
different from all others. It differs in
its habit of growth, sending up a single
stalk from two to four feet in height
without laterals. It differs markedly in
hardiness, for while the standard varie-
ties cannot be planted with safety before
the warm weather is here, these English
beans, as they are often called, because
they are raised very extensively in Eng-
land, where the climate is too cool to
admit of the raising of our sorts in the
open air, need to be planted in our
country almost as soon as the frost is
out of the ground to meet with any
success in raising them. Instead of
craving heat they are checked by it,
and, in short, can well do next to nothing
in cropping if they are not planted
very early, and then in cool a spot as the
garden affords.

Though there is usually but a single
variety to be found in our catalogue,
several are to be found in that of the
mother country. I have raised about
all the various kinds and find them to
differ wholly in size only. One, however,
had a very beautiful half scarlet
scarlet blossom, which would make it an
ornament for the flower garden. The
appearance even of the ordinary variety,
with the mass of white and black
blooms running down the stalk, is
striking. One is called the coffee bean,
possibly because the beans are not much
larger, and in appearance bear some
resemblance to a kernel of coffee. In
England they are largely grown as
nutritious food for horses, and are there-
fore generally known by the name of
"horse bean." While travelling
there some years ago, at about the time
of the bean harvest, I saw them on
every hand in tracts of an acre or more,
the vine cut off at the surface of the
ground and left to dry before stacking.

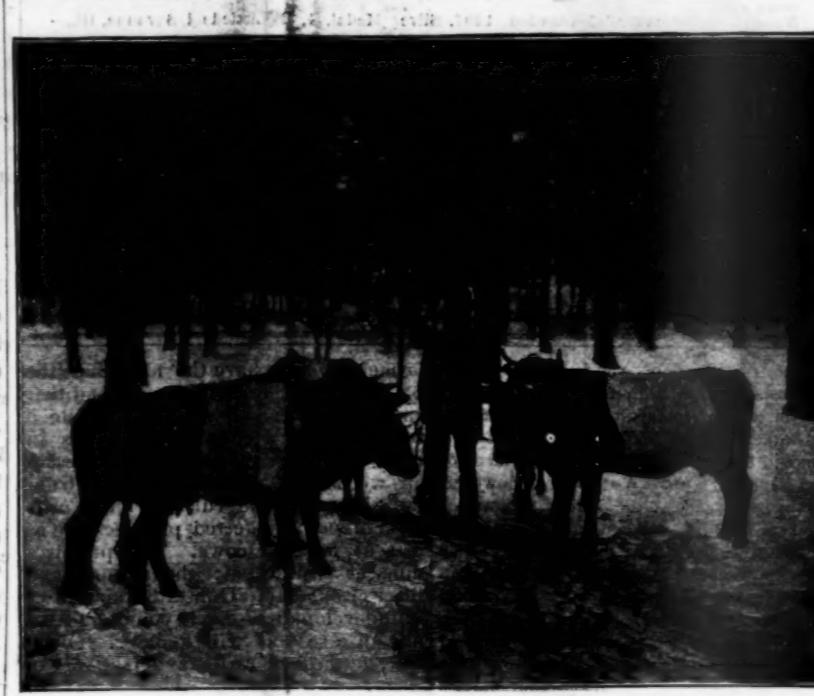
"The corn was housed, the beans
were in the stack," wrote an old Eng-
lish poet; but it was not corn as we
know it that was housed, nor beans as we
know them that were stacked; for as I
have before remarked of the bean, so I
now state regarding corn, that it cannot
be grown in the cool climate of England.
Their corn is what we call wheat, and
the misnomer is doubtless with us, for
wheat was called corn in the Father-
land long before America was discov-
ered, and consequently Indian corn
has.

In drying, the vine and pod turn
black and remind one, in their black,
wilted state, of the old-fashioned twists
of tobacco. This bean our agricultural
station has found to be so nutritious in
food elements that it is a question
whether it might not be a profitable
crop to raise for stock feeding in the
cooler sections of this country.

I have always noted that a small pro-
portion of the numerous blossoms come
to anything, and having assumed that it
was because it was not adapted to our
climate, I was interested when in Eng-
land to see how they cropped there. I
find that while their crop was rather
better than ours when early planted,
still the great majority of the blossoms
failed to set pod, while the number of
beans to a pod averages but little better
than ours, from two to four. It with us
plant our native sorts they will grow
vine and blossom, but will set but one
pod. Fully grown and in a green state,
they have a rank, disagreeable taste,
when boiled, but if used when about
half grown they will be found to be fine-
grained, and their peculiar flavor is very
acceptable to the taste of many people.

My late father when I was young often
grew a row in his garden.

J. J. H. GREGORY,
Marblehead, Mass.



DUTCH BELTED CATTLE

Why We Need a Peach Yellow Law.

MR. CLEMENT GIVES HIS REASONS IN A CONDENSED FORM.

1. The disease is highly contagious and incurable.

2. By legal measures only can we prevent the shipment to our market of thousands of baskets of diseased fruit annually.

3. Fruit so diseased is worthless for eating and a fraud upon an innocent public. It is insipid, mawkish, and bitter.

4. By legal measures only can the destruction of diseased trees in orchards and gardens be secured to prevent contagion.

5. In Massachusetts the average age of an orchard under present methods of treatment is but eight to ten years.

Michigan for twenty-two years has been protected by law, and under its workings that state has become the first in quality and quantity of fruit of any peach growing state north of Georgia, and many orchards are thrifty at 20 years of age.

7. In the report of the pomologist of the Department of Agriculture for 1891, Prof. Van Deman says (page 379), "In Michigan a large crop was gathered and the yellow did but little damage, owing to the rigid enforcement of a wise state law which requires the prompt destruction of all diseased trees as soon as discovered."

A WORD OF EXPLANATION.

In your report of an address by me
to the Massachusetts Fruit Growers' Association, the 10th ult., reported in
your March 20th paper, I am quoted as
saying, "Last year over 300,000 baskets
of 'yellow' peaches from New Jersey,
Maryland, and Delaware were received in
Boston." This was not stated by me,
neither is it true, as the secretary of the
Boston Produce Exchange for 1896
shows receipts altogether for but 288,000
baskets. I did state, however, that in
the year 1895 the petitioners, receivers,
and wholesale dealers, who so unanimously
signed in favor of a peach yellow law,
did receive from other states over 375,000
baskets of peaches, among which were
thousands of baskets of diseased fruit;
and I also stated that because (1) diseased peaches are good for nothing to eat; (2) they invariably
break the price for good fruit; (3) it is a
fraud on the consumer; that these men
warn the public of this imposition and
express a willingness to unite with the
orchardists in the suppression of this
trash. What we desire is the

Michigan method of treatment which
has proved successful for twenty-two
years. Professor Taft of the Michigan
Agricultural College states that where
the law is properly enforced the loss is
from 1-10 to 1 per cent annually from
peach yellows—thus requiring from 100
to 1000 years to run out an orchard from
this disease under their law.

ARTHUR M. CLEMENT.

PROFESSOR FERNALD, entomologist,
expresses the opinion that the army
worm will not give much trouble this
year.

Dutch Belted Cattle.

The Dutch belted or blanket breed of
cows are natives of Holland, and are a
distinct family from the Hol

FARMERS' MEETING.

THE ESSAY.

(Continued from first page.)

tions are favorable, grow and develop slowly or rapidly according to circumstances, and reproduce the disease. This disease cannot be produced without the presence of the germ, and not one tuberculous germ in ten thousand ever develops sufficiently to cause harm. They become dried and pass into the atmosphere and are present nearly everywhere until destroyed by their enemies, among the most important of which are light and extreme heat. The condition of the system in which the germ finds lodgment and the environments with which it is surrounded are the important considerations in causing or preventing a case of tuberculosis. These are the important matters to be considered in restricting this disease.

The prevalence of bovine tuberculosis varies in different sections, of the same country. It is generally found most prevalent in thickly settled sections, and the greatest immunity from it is those localities where animals enjoy the greatest freedom with the least confinement and forcing. Statistics regarding its prevalence are meagre.

In 1890 and '91 over 12,000 animals were killed in England during an outbreak of pleuro-pneumonia under the direction of the Board of Agriculture, and were subjected to a post mortem examination for the presence of tuberculosis. It was found that over twenty per cent of those animals that were killed on account of another disease were tuberculous. This may be a higher per cent than could be found anywhere in New England, but this, of course, is simply a matter of conjecture. There is more of the disease than there ought to be. Notwithstanding loud-mouthed claims that certain sections are entirely free from it, we express the carefully formed opinion that there is not a county in New England, and but few towns, where the tuberculin test would not reveal a case. Were it necessary to go through and make such an investigation the expense would be appalling, to say nothing of the effect upon the live stock industry. The advocates of the indiscriminate application of the tuberculin test, and destruction of all animals that react, are growing less every day, and we leave, without expressing an opinion, the extent to which this testing should be carried to the wisdom of the legislature. The subject before us is the consideration of means of preventing, which is paramount to all else in the suppression of this wide-spread and alarming malady. What we shall say upon this subject is based upon personal observation and experience in the inspection of animals in over 1200 barns in New Hampshire, in two-thirds of which tuberculosis was found. We shall not weary your patience by an alarming array of figures, but give you such general conclusions as our observations and reading have caused us to form upon this important and far-reaching subject.

SOME OF THE CAUSES.

A careful consideration of this matter fails to reveal any single cause to which the development of the germ can be traced, for the several causes contributing to it are generally associated where serious infliction is found. Probably the most productive of any, and that which is most often present, is the lack of proper ventilation in the stable. Good authorities claim that each full-grown animal should have 1000 cubic feet of air space with a change of air two or three times a day. This, of course, refers to a stable without ventilation. Within the last twenty years there has been excessive agitation of the necessity of keeping dairy animals warm, as a means of increasing the milk supply, and so earnestly has this been advocated by the speakers of farmers' meetings and institutes, and by the press, without sufficiently enforcing the necessity of ventilation, that the old stables were boarded up in front and new stables were built with this end alone in view. Within the same period stimulating grain foods have come into the market and have been sold at low prices in proportion to the nutrient they contain. In addition to this the thrifty dairymen had been told that each movement of a muscle by the cow reduced the secretion of milk, and in many instances she was kept tied in the rigid stanchion from fall till spring, forced to her utmost capacity with stimulating foods, and all the time in a close, ill-ventilated stable. The owner apparently secured his milk at less expense than under the former system, but the germs of tuberculosis which are everywhere present found congenital soil in the systems of those animals and they became a tuberculous herd. So slowly did the disease develop that its nature was unknown to the owner, much less its cause, and occasional droppings animals were innocently sold to a neighbor, thus aiding in the contamination of other herds where conditions were in any way favorable. Sometimes they were sent to a distant town or state to pasture, and after a slight recuperation at pasture feed, were disposed of to unsuspecting purchasers to carry the disease into new sections and new herds. This, in brief, is the history of the development of the bovine tuberculosis existing in the country to-day, and indicates the extreme importance of preventive measures which are largely in the hands of the stock owner to enforce or neglect.

BARD AIR.

We shall place at the head of the list of causes contributing to the development of bovine tuberculosis insufficient ventilation of stables. We find a wide difference of opinion among farmers and dairymen in regard to what constitutes proper and effective ventilation. An opening near the top of a close stable or tie-up will allow the heated air to pass out because it is lighter and tends to rise, but the foul gases and tubercle bacilli are heavier than pure air, and settle towards the floor. A system of ventilation should take the air from the most contaminated part of the stable and carry it to the outside. A ventilating flue should be provided for this purpose, extending to the outside under the eaves, and the draft will accomplish the object.

There should be arranged at least one for every 1000 cubic feet of air space. We are now referring to those stables that are closed in tight in the form of box stables, and commonly called board-up in front. In addition to this the partition in front of the animals should be so arranged as to be left partially open, except in extremely cold weather, and then should be used with good judgment. A stable arranged in this manner with a ventilator in the roof of sufficient size to carry off the heated air can be used with safety, if proper attention is given to regulating it. We are not in favor of heating the air in the cow stable from the warmth of the animals to such an extent as is frequently practiced. We have entered many stables where it was exceedingly oppressive to remain any length of time on account of the excessive warmth and foul gases, and those are the stables that contribute largely to the development of tuberculosis. The wise plan is to make the barn sufficiently tight to exclude as much cold air as possible, provide a ventilator in the roof and another for the escape of the foul air under the eaves, and allow the animals to stand with their heads to the big roomy barn floor, except in excessively cold weather. The purest air in

DE LAVAL CREAM SEPARATORS

Always Make the Most Butter and Always the Best.

The honor scoring record of De Laval "Alpha" and "Baby" Separators made butter the past three years has been a practically clean sweep of all competitive prizes and awards in every general contest—National and International, State and District—in America and all other countries.

Below are noted a few of the more important American 1896 and 1897 Highest Awards, which are representative of a multitude of others.

NATIONAL BUTTERMAKERS' CONVENTION, 1896, GOLD MEDAL, MILTON DAIRY CO., ST. PAUL, MINN.—

- Wisconsin State Fair, 1896, George Tarrant & Sons, Durand, Wis.,—score 100.
- Illinois State Fair, 1896, J. W. Segar, Peoria, Ill.,—score 98.
- Wisconsin State Fair, 1896, Milwaukee Creamery Co., Milwaukee, Wis.,—score 94.
- Vermont State Fair, 1896, Hillside Creamery Co., Windham, Vt.,—score 93½.
- Iowa State Fair, 1896, W. W. Day, Tripoli, Ia.,—score 93½.
- Minnesota State Fair, 1896, Courland Creamery Co., Courtland, Minn. (second),—score 90 4-5.
- Vermont Inter-State Fair, 1896, F. D. Friend, Johnson, Vt.,—score 98.
- S. Dak. State Fair, 1896, St. Paul, Minn. (second),—score 98.
- Missouri State Fair, 1896, D. E. Wood & Co., Elgin, Ill.,—score 99.
- Indiana State Fair, 1896, R. W. Farnas, Indianapolis, Ind.,—score 98½.
- Texas State Fair, 1896, A. P. Ponder, Dallas, Texas,—score 98.
- New Mexico State Fair, 1896, John C. Conner, 1896, Elkhorn Waterhouse, Cornish, N. H.,—score 95½.
- Iowa State Dairy Convention, 1896, H. N. Miller, Randolph, Ia.,—score 99.
- North Carolina State Fair, 1896, Geo. W. Vanderbilt, Biltmore, N. C.,—score 98.
- S. Dak. State Fair, 1896, Minn. Creamery Co., Miner, S. D.,—score 97 3-5.
- Wisconsin State Fair, 1896, W. W. Day, Peoria, Ill.,—score 98.
- Vermont State Dairy Convention, 1897, Stafford Creamery Co., Stafford, Vt.,—score 98.
- Connecticut State Dairy Convention, 1897, Theo. A. Stanley, New Britain, Conn.,—score 97.
- Illinois State Dairy Convention, 1897, Elgin Board of Trade Gold Medal, County Line Creamery, Kankakee, Ill.,—score 98.
- National Buttermakers' Convention, 1897, Gold Medal, H. N. Miller, Randall, Ia.,—score 98½.
- National Buttermakers' Convention, 1897, Silver Cup, G. H. Littlefield, Savanna, Ill.,—score 97 01.

A review of the scoring of the 400 exhibits of butter entered into the great Annual Contest of the National Buttermakers' Association, at Owatonna, including all makes and systems, shows that of all exhibits scoring 95 or above 85 per cent. were De Laval made, and that all exhibits scoring 97 and above were of De Laval make only.

Send for "Baby" or "Dairy" Separator Catalogue, No. 246.

THE DE LAVAL SEPARATOR CO.,

WESTERN OFFICES:
Canal and Randolph streets,
CHICAGO.

GENERAL OFFICES:
74 Cortlandt street,
NEW YORK.

only be renovated by vigorous and heroic measures. Such conditions as are claimed to exist in certain sections of New England can only be met by the expenditure of large sums of money in connection with the enforcement of strict sanitary laws. We believe, however, that the importance of the sanitary measures is in danger of being covered up by the other. We believe those entrusted with the enforcement and execution of laws for the suppression of bovine tuberculosis can have no ironclad regulations that will apply to every herd. Where the physical inspection reveals a case of tuberculosis, and the conditions are such as to suggest the absence of sanitary precaution for a period of time, the application of the tuberculin test is perhaps advisable.

EDUCATION BETTER THAN SLAUGHTER.

In the comparative freedom of the herds of various sections of New England from the disease in a serious form, we believe a campaign of education along sanitary lines will accomplish more than a universal use of the tuberculin test. There are hundreds of cattle slightly affected with the germs of the disease that will never develop sufficiently to cause harm to man or animals, if proper sanitary measures are observed. How this can be secured I am not able to say, but it presents the most important phase of the question for the practical suppression of bovine tuberculosis today. There are doubtless some herds which are so saturated with the disease that only the tuberculin test will meet the case, and where this should be applied is a serious and important question for the cattle commission to determine.

IMPORTANT CONCLUSIONS.

In closing this address let me make a few statements in regard to the control and spread of bovine tuberculosis, without wearying your patience, with our reasons for the conclusion. We have them in our possession and are firmly convinced of their authenticity. We would, however, like to see the truth or falsity of these views demonstrated by the agricultural experiment stations of the country, for they alone are amply equipped for such expensive and long-term experiments as would be involved in the question. We believe, however, such experiments would establish beyond all doubt disputed points bearing upon the important matter of bovine tuberculosis and its appearance.

We assert: 1. A herd of healthy cattle may be divided into two lots and a tuberculous animal introduced into each lot. One lot kept without measures advocated in this address will, inside of three years, develop 75 per cent of tuberculous cattle, and the other lot, with sanitary measures well enforced, may come out at the end of three years uncontaminated.

2. A lot of cattle that have reacted to the tuberculin test, but manifesting no physical symptoms of the disease, may be kept for years under perfect sanitary conditions and a large percentage will never develop the disease sufficient to cause any harm, and some will be cured. I thank you for your kind attention.

THE DISCUSSION.

Chairman Ware—Before the meeting is thrown open to all, I should like to call upon another speaker. We have listened to an authority from the State of New Hampshire, and I notice that we have here also one who may fairly be considered the most expert authority in Massachusetts, one who has for many years conducted experiments upon the subject, attaining results of importance, and who has upon many occasions spoken wisely and well at these meetings. I would call upon Dr. Austin Peters, chairman of the Mass. Cattle Commission. Will Dr. Peters please come forward?

Dr. Peters—I didn't come here expecting to say much, but rather to listen to what was said by others. I can endorse all that the speaker from New Hampshire has said. Proper sanitary conditions are of greatest importance,—cleanliness, ventilation, light. Agricultural writers have placed so much stress upon warmth as an aid to milk production that ventilation has often been sacrificed to warmth. If farmers cannot use artificial heat, and I do not see how they can at the present price of milk, they must have cooler but better ventilated barns. For the sake of warmth, every crack and cranny has been stopped and the barn kept warm by animal heat until, as compared with some places in which cattle are kept, the black hole of Calcutta was like heaven. We must have more and better barn ventilation.

We have entered many stables where it was exceedingly oppressive to remain any length of time on account of the excessive warmth and foul gases, and those are the stables that contribute largely to the development of tuberculosis. The wise plan is to make the barn sufficiently tight to exclude as much cold air as possible, provide a ventilator in the roof and another for the escape of the foul air under the eaves, and allow the animals to stand with their heads to the big roomy barn floor, except in excessively cold weather. The purest air in

the stable will be found near the aperture which is often expected to carry off impurities, and the foulest air near the floor, a fact which should be carefully considered in arranging a system of ventilation. On a scale of points in which 100 represents perfect conditions for preventing bovine tuberculosis, we shall place the proper ventilation of the stable at 40.

THE FOOD FACTOR.

Another accessory cause of vital consequence, one which has been frequently discussed and urged to the most extravagant and unreasonable statements, is that of feed. It has been claimed with much earnestness that enlarded, cottonseed meal, gluten meal, and other concentrated feeds, which have come into general use within the present generation, are direct causes of this disease. This claim has been made by men of high authority in matters of public concern, but fails to be verified by any reliable data. A person may eat mutton pie in sufficient quantities to kill him, but we don't stop eating pie or assert that it is a specially dangerous food. A person may feed a horse to the extent and in such a manner that it will die of spinal meningitis, but we don't stop feeding grain to horses on that account. We have given careful investigation to this matter and fail to find any connection between any kind of food and the development of tuberculosis. The amount that is fed has something to do in causing it.

Since the highly-concentrated feeds have come into use there is a tendency to crowd the animals to their utmost limit at the expense of constitutional vigor. This has been justified in the mind of the feeder from the fact that it requires a certain amount of food to sustain the animal system, and in the case of well-bred animals the larger the amount they are able to digest and assimilate, the more is the profit derived from the feeding. This is without taking into account the effect upon the animal. The result has been that the system was over-taxed by the excessive strain put upon it, and could offer less resistance to the tuberculous germ and thus fell a prey to the disease. A person who has a difficult task to perform may receive stimulus for the time by excessive eating, drinking, or smoking, but this is not the profit derived from the feeding. This is without taking into account the effect upon the live stock industry. The advocates of the indiscriminate application of the tuberculin test, and destruction of all animals that react, are growing less every day, and we leave, without expressing an opinion, the extent to which this testing should be carried to the wisdom of the legislature. The subject before us is the consideration of means of preventing, which is paramount to all else in the suppression of this wide-spread and alarming malady. What we shall say upon this subject is based upon personal observation and experience in the inspection of animals in over 1200 barns in New Hampshire, in two-thirds of which tuberculosis was found. We shall not weary your patience by an alarming array of figures, but give you such general conclusions as our observations and reading have caused us to form upon this important and far-reaching subject.

Send for "Baby" or "Dairy" Separator Catalogue, No. 246.

THE DE LAVAL SEPARATOR CO.,

WESTERN OFFICES:
Canal and Randolph streets,
CHICAGO.

To Make Small Cheeses.

A ten-pound cheese may be made of fifty quarts of milk. Twenty-five may be the evening's milk, skimmed in the morning, to which is added the whole morning's milk. The milk is set in a heater on the stove, being stirred now and then to heat slowly to 80 degrees, when the rennet is thoroughly mixed by stirring. Half a teaspoonful of the liquid extract for this quantity of milk, or a cake of the solid rennet as sold in the stores, is enough. The milk is covered and set in a warm place until the curd breaks through the finger is passed through it. The whey is then dipped off and put in the boiler and heated to 150 degrees.

While this is doing the curd is broken by the hand, the hot whey is then poured on, and when the curd squeaks, when bitten, it is ready to be put into moulds and pressed down solidly and the whey is drained off. As soon as the cheese is solid enough it is taken from the mould and kept in a clean place and turned daily for a month. It should then be kept a month longer in an airy place, and the mould which gathers on it scraped off once a week. A very good cheese may be made without this heating in hot curd.—Indian Farmer.

Stock Notes.

The price of stock cattle is up, and is likely to go higher.

A good way to market the surplus corn is to feed it to hogs.

Lime water is recommended by some as a remedy for scours in lambs.

Don't overfeed the hogs. It is conducive to disease. Better feed too little than too much.

Sheep are inclined to scour when turned on fresh grass, and some food to counteract this should be given.

5 Sores

In combination, proportion and process Hood's Sarsaparilla is peculiar to itself and unequalled in true merit.

No other medicine ever possessed so much curative power, or reached such enormous sales, or made such wonderful cures, as Hood's Sarsaparilla.

It is undoubtedly the best medicine ever made to purify, vitalize and enrich the blood.

That is the secret of its success.

Read this statement:

"When my son was 7 years of age, he had rheumatic fever and acute rheumatism, which settled in his left hip. He was so sick that no one thought there was any help for him. Five sores broke out on his thigh, which the doctor said was

the cause of his trouble.

Chairman Ware—I should like to bring up one point in the essay. The speaker alluded to a well-ventilated barn. What does he consider the best way to ventilate?

Mr. Bachelder—in New Hampshire we recommend that the barns be ventilated from a point near the floor, the ventilating flue going up either inside or outside of the stable and passing out under the eaves; so that the air will be taken from the most contaminated part of the stable.

In suggesting this, am basing it upon the theory of our scientific teachers, who tell us that near the floor is the most contaminated portion. We all know that the germs are heavier and tend to settle, and it is reasonable to suppose that they will be near the floor.

We recommend the farmer to have a ventilating flue at least once in every other section in the barn, a section usually being about twelve feet, unless the stable be all open in front, with a ventilator in the roof, in which case it would not be so necessary. If one is a horse and litter cleaned up. Unhealthful premises will develop disease. If you don't have one disease you will another. Disinfect, get healthy cattle, and take care of them.

One day a newspaper recommending Hood's Sarsaparilla was left at our door. We decided to try this medicine. Chairman Ware—I should like to call upon another speaker. We have listened to an authority from the State of New Hampshire, and I notice that we have here also one who may fairly be considered the most expert authority in Massachusetts, one who has for many years conducted experiments upon the subject, attaining results of importance, and who has upon many occasions spoken wisely and well at these meetings. I would call upon Dr. Austin Peters, chairman of the Mass. Cattle Commission. Will Dr. Peters please come forward?

Dr. Peters—Begin by washing down the floors, gutters, etc., using one part corrosive sublimate to 1000 parts of water. First of all we always take up all dirt, sweep down cobwebs, and remove rubbish. If there is a hose and running water, we use that; and if there is a boiler in the barn, it is convenient to run live steam into the barn through the hose to mangers and wood-work and into the cracks and crevices in front of the cows. At least the corrosive sublimate solution can always be used. Use the sublimate, then apply whitewash made from quicklime and water to the walls, where they are likely to die before being detached.

Chairman Ware—is not the hay more likely to collect germs?

Dr. Peters—that is possible. It would be well to slice off the outside of the mow with a hay knife and burn what you remove.

Chairman Ware—we are fortunate today in having with us Dr. Bailey of the Maine Cattle Commission.

Dr. Bailey—I am in full accord with what has been said, differing at least only in a few minor details. A pivotal point is the fact that we must introduce the tuberculin test, we cannot abandon it. I have always claimed that there is less tuberculosis in Maine than in some other states. There is less in-breding. The Jerseys seem hardly able to stand our severe climate, and many of these cases have been found among these Jerseys. We have more airy farms and perhaps our conditions have been such as to give less of a foothold for the disease. I have found hardly a case among the rugged, hardy little native cows. I have been on the Board fifteen years, ever since the tuberculosis law went into effect. We have about 300,000 cattle in the State. In many cases the cattle are kept under poor sanitary conditions. One herd in the western part of the state had stood on the frozen manure all winter, which had accumulated until the cattle stood two and one-half feet higher behind than in front. I asked the owner what advantage he expected from this plan. He said the cows were easier to milk than when the barn was kept warm by animal heat until, as compared with some places in which cattle are kept, the black hole of Calcutta was like heaven. We must have more

POULTRY.

EGGS at \$1 per 13

From thoroughbred White and Buff Wyandottes, White Plymouth Rocks, White and colored Muscovy, Cayuga and Pekin Ducks. Eggs from Tonkinese and Brown China Geese 30 cts. each.
ARTHUR H. SAGENDORPH, Spencer, Mass.

Setting Hens Early.

In setting hens early when the nights are cold, it is a big mistake to give too large a clutch of eggs. In fact, we firmly believe that it will pay, no matter what season of the year the hen is set, to never give her more than eleven eggs at a time. It will be easier for her to handle them, and she can give them better warmth. By starting two hens with eleven eggs each, they can be tested on the sixth day, and the fertile eggs given to the one hen, when the other hen can be reset, if desired. Later on in the season, when the weather grows more mild, it is a good idea to start three hens at a time, and then test out the infertile eggs, dividing the good ones among the two hens, and resetting the third. During February and March the fertility will not be so strong as in April and May.

FOOD FOR LAYING DUCKS.

To insure plenty of eggs from ducks, correct feed must be given them during the laying season. A good food that all can obtain from the farm, and one that gives very good results, is composed of the following mixture, to be fed morning and night: Maize meal two parts, ground oats one part, wheat bran one part, middlings one part; season with salt, and mix with hot water or skim milk. Clover hay cut fine, steamed and mixed with the above feed, increases egg production, and promotes the general health. Plenty of green food should be given them at all times. Do not feed the mixed food sloppy, but so that it sticks well together. The morning feed should be about one-half what is fed in the evening, so that they will exercise themselves during the day. Avoid getting them too fat, or few and infertile eggs will be the result. We cannot specify the quantity for each meal, as the owner must be the judge. Ground green bone or beef scraps make most excellent feed, and those who have the opportunity of procuring either will find it profitable feed.

FEATHER PULLING.

This trouble, which so frequently occurs when fowls have small runs, is a very annoying one, often making the fowls bleed, and present a very ragged appearance. It is considered due primarily to a mite insect upon the skin. The vice of feather pulling is undoubtedly the worst mischief a fowl can get into. It is a bad habit, and often due to the over crowding of the flocks. Idleness is the prime cause, brought on by not having enough employment. The only remedy we found, where the fowls were closely confined, was to allow them free range. All sorts of ideas and cures are suggested by different writers, among them the following:

"Smear a little tar over the plucked spot."

"Trim the beak" (which is too cruel for practical use).

"Supply an abundance of green food and meat."

"Give a teaspoonful of salt to two quarts of soft feed every morning, the theory of which is that the saline matter of the feathers supplies something they do not get."

"Smear the feathers around plucked spot with tincture of capsicum."

"Give them regular feeds of nothing but feathers, and they will soon tire of them."

"Dab the feathers around the bare spot with paraffin oil." (Many writers advise this remedy.)

"Place powdered borax where the fowls can have free access to it."

"Give all the salt pork they will eat; this will not harm them. Place a large piece in a rack, where they cannot get it in the dirt, and let them pick away."

"A cabbage head tied up in their pen will stop the practice." And so each man has a different remedy.

A Cow's Memory.

John Gould tells a story of a man who recently re-purchased a cow, which in her absence of several years had had her home in various herds and various states, and finally was sent to the far South, but in course of events she found herself back into her old home, and the stable door opened, she walked in and down the line, and without a second's hesitation sought and placed herself in her old tie up, and in every way seemed delighted, and on the appearance of the mistress of the farm the cow lowed and manifested that her joy was unbounded. Is there not a dairy lesson in this incident?

One gardener having vegetable seeds to thresh, took a grain bag, filled with radish stalks and pots, threw it upon the barn floor and threshed it with a flail. In a few minutes he had about two pounds of fine seed. Other kinds can be threshed in the same way.

APIARY.

Dead Bees Blocking the Entrance.

If the entrances to hives are very small, and they should not be large during winter, there is danger of the same becoming blocked with dead bees that accumulate to quite an extent during this time. On the approach to a warm day, when the bees are likely to fly, the entrance should be opened.

It often occurs that the dead bees are wedged in the entrance so completely that the bees are unable to remove them, and suffocation of the colony is the result. It is not necessary to be continuously opening the entrances thus during cold weather, as no harm will arise except on such occasions as above, and damage may be done otherwise.

It is not necessary to assist the bees in removing the dead bees, or to clean the hive during winter, as they will attend to that properly, and if the entrance is such that one or two bees can pass in or out, they will not fail to arrange everything properly. It is a mistake to shovel away snow from the hives.

It is also a mistake to clear away the snow from the entrances. Snow will not prevent the necessary amount of air reaching the bees, and hence there is no danger whatever of suffocation. In very cold weather snow is good protection, when banked up around the hives, and many make a mistake by shoveling it away, and not only that, but greatly damage the bees by the disturbance at a time they should be strictly let alone. During a heavy snow and a severe cold spell hives may be totally covered with snow.—Kansas Farmer.

Ducks and Army Worms.

James Rankin of Easton, in writing to the Poultry Monthly of the value of ducks in fighting army worms, said:

"We had several barley fields (sowed late for fall feed for stocks and ducks) which were just headed out. Thinking it looked strange one morning, we found nothing but the bare stalks left, which were literally covered with army worms. We put the mower to work at once, but found that the worms did not cease their work, but kept on cutting off the stalks and cutting off the beards of the grain. We then raked it together in small heaps, hoping to save it that way; but what was our astonishment the next day to see our lane full of the insects—a long black line of them streaming out of the barway, heading right for the buildings. Our first thought was to muster all hands and by use of kerosene and trenching to fight them there. We then thought of our ducks. We had several hundred breeding ducks just over the wall. We opened the gate, letting them into the lane. They looked in astonishment at the disclosed ground; finally one of the leaders put down his head to investigate. In a moment every head was down. Up the lane they came slowly, gathering up every worm, into the barway from which the worms were pouring, into the barley field and around it, croaking their satisfaction as ducks only can do, and out at the same barway as they entered, every bird laden to its utmost capacity. We had no fear now, as we had 1800 more birds in reserve.

"The seed bed should be made fine, and the seeds sown directly on the surface, and not covered at all, but pressed into the soil by running the wheel of the drill or hand-cultivator over it, or, if you have neither, run an empty wheelbarrow over it so that the wheel will follow the row. All small vegetables should be sown by line, so as to have the rows straight and the seeds not scattered, for this saves hand weeding, as the garden cultivator and hoe can do nearly all the work.

"A hand cultivator is a most useful tool in the garden, and will save its price in a single season, while, with good care, it will last many years. I have used mine for nearly twenty. Do not buy a high-priced one with a dozen attachments. I want nothing but a narrow-bull tongue, & a turning plow, and about nine times out of ten I use the 'bull tongue.' It is a mistake to try to work the garden deep with a hand cultivator, and I rarely try to stir the soil more than one inch.

"The time to do the best work, and do it easily, is as soon after a rain as the surface will crumble nicely, as the land works easily, and the weeds will all be killed before they show. I prefer the single wheel hoe to the double, which works both sides of the row at once, and when I get a new one will buy the universal single wheel hoe, which costs but \$2.50. If I had only an eighth-acre garden I would have one of these garden cultivators, for it makes quick and light work. In my next article I will tell how to grow onions."

A rectangular bottle half full of water makes a fairly good level for rough carpenter work.

We should avail ourselves of anything which will enrich or loosen the soil. Plow weeds under rather than to cut or burn them. By decomposing in the soil, they are of much greater value than if the ashes are merely left upon the surface; and yet the better way is to have no weeds. Keep the ground so well occupied by things of value that they will have no chance to grow.

One gardener having vegetable seeds to thresh, took a grain bag, filled with radish stalks and pots, threw it upon the barn floor and threshed it with a flail. In a few minutes he had about two pounds of fine seed. Other kinds can be threshed in the same way.

A Popular Separator



It is said that popularity is an index of the merit of a machine, and such is the case there is abundant evidence that the Safety Hand cream separator deserves its good name. Like all other of our machinery, our constant effort is to make the best instead of the cheapest. Send for circulars.

P. M. SHARPLES,
West Chester, Pa., Elgin, Ill., Rutland, Vt.

TRIED Seeds

From tree stock. Every bushel and most profitable seed, grain, vegetable, and fruit, tested by a market gardener who knows the markets and market values.

If you plant much or little—
Arlington
TESTED Seeds.

You'll learn all about them, and much besides of value to gardeners in Rawson's 1897 Seed Book. Fresh. See our big advertisement in issue of March 13.

W. W. Rawson & Co., Boston, Mass.

Garden Hints---Early Planting.

It is a strange thing that so many men who have spent their lives on a farm have not learned that there is a large list of vegetables so hardy that they may be planted just as early as the land can be worked mellow," writes Waldo F. Brown in the Ohio Farmer; "and the ground may freeze solid after they are planted, and remain so for days without injuring them.

"I always plow my early garden in the fall, in narrow lands, and open the dead furrows so as to give perfect surface drainage, and then plant the first day the land will work mellow the following vegetables: Peas, lettuce, spinach, beets, radishes, onions, cabbage and celery. I sometimes lose the beets, radishes and cabbage, but not one year in five. The rest are so hardy that they always escape.

"In 1896 I found the land in good order on the 27th of February, and planted three varieties of peas, spinach, lettuce and radishes. March came in cold, and on the third the mercury was 16 degrees, and even though frozen solid. On the 12th, 13th, and 14th the mercury ranged from ten degrees down to two degrees, and on the 19th we had a blizzard, with eight inches of snow. The ground remained frozen until the last day of the month, but a week later the pea and lettuce showed in the row, and I only lost the radishes, and was more than two weeks ahead of my neighbors who deferred planting till April. I have never had any trouble growing celery plants when I sow early in the open ground.

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A rectangular bottle half full of water makes a fairly good level for rough carpenter work.

Bulls in service. Brown Bees' 5000. Pedro Land Lamp 30212. Fancy Harry of Hood Farm 42345. Fancy Harry of Hood Farm 42346. Young stock by these great and out of deep, rich milking cows of the best and best butter strains generally on hand and for sale. Address, HOOD FARM, Lowell, Mass.

The Dairy.

Since the enactment of the filled cheese law our exports of cheese have increased very largely.

Keeping the cows in a good, thrifty condition is one secret of success in dairying, and success or failure often turns upon this.

The advantages of the Jersey are that their milk is exceptionally rich in cream; the breed is prolific and precocious; all items of importance in making the most out of the dairy.

If you are making a specialty of good butter it will pay you, probably, to work up a route or private buyers in your town. Much better prices can thus be secured than at the market. Eggs and vegetables can also be sold to advantage in this manner.

Bear in mind that after you have procured good cows and have fed them scientifically, and have practiced all the arts of butter-making, you may still not be making money, for the reason that your skim milk is too rich. Know how to get all the cream.

Here is a Wisconsin ration for milch cows: Peas, oats and corn, half-and-half, ground, mixed with bran; feed about ten pounds a day. In addition to this ensilage is fed, which contains some corn. The peat and oats are sown together.

Farmers who have millet to feed this winter will have to exercise some care if the millet heads contain much seed. There have been instances of garget which came from the combined causes of feeding too much millet and then exposing the cows to the cold. Millet seed is very stimulating to the milk producing glands, and consequently the farmer must either take extra care of the cow or cut the millet in the summer before the seed forms. When the latter method is followed it makes splendid hay.

Milk may be bought by the brick in summer, like some kind of ice cream. It is frozen solid. From a fat, frozen milk has grown to be more or less of a necessity, in the warmer countries in Europe. The Belgian Government designs to increase the trade at an annual outlay of \$50,000 dollars, and in Copenhagen a company has been formed and arrangements have been completed for its regular export. The necessary plant has been erected, and contracts have been made for the delivery of 110,000 pounds per week, which will be sent to all parts of the world in bricks, or blocks, like ice.—Rural World.

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Spring in the Berry Field.

In preparing ground for the garden, carefully consider the condition of the soil and the needs of the plant.

Fertility is plant food, and the soil must contain nitrogen, potash, phosphate, humus and moisture in liberal quantities to fully supply the needs of the plant.

Good barnyard manure, worked into the soil, and wood ashes applied as a top dressing will supply these needs.

Not only must the soil contain these food elements, but they must be thoroughly mixed and incorporated in the soils to become available as plant food. Therefore let the ground be heavily manured, and every square inch, for a foot in depth, be well pulverized.

The surface should be smooth, and when the soil is very loose and light, roll the ground to make it firm and compact.

Moisture is the chief element in both plant and fruit, and is hardest to supply at the time and in the manner needed.

A deep, rich, pulverized soil retains spring and summer rain, and acts as a reservoir for this surplus moisture until required by the plant in forming new roots, leaves and fruits.

Compensation is the law of the soil. Feed and cultivate if you would have large products.

A plant is a huge feeder and a hard drinker.

Every fine little rootlet is a constant sucker, severely taxing even the best prepared soil for its sustenance. In poorly prepared soil it literally starves to death.

It has an animal nature, requiring food and drink as we do. It is almost human in its appreciation of good care or neglect. Treat plants and animals humanely, and they will humanize you.

A fruit plant with roots exposed to sun and wind will die as soon as a fish out of water.

When received, keep cool and moist until set in the ground. In setting, trim ends of roots and broken parts, spread roots out in their natural position, and press fine moist dirt firmly about them.

With strawberries, have the dirt just even with crown of plant. No roots exposed, and no dirt over the top of plant.

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BOSTON, MARCH 27, 1897.

Persons desiring a change in the address of their paper must state where the paper has been sent as well as the new direction.

GET ready for the spring rush.

MONEY ON PEACHES? Ask the Sherborn growers. They are setting out new trees every year.

GRAPHITE and petroleum grease mixed make a good axle-grease and anti-friction lubricant.

FAST-WORKING implements make cheap crops. If you have smooth land, don't do much work by hand.

A practiced hand can easily remove an obstruction from a choking cow's throat by the aid of a loosed wire.

THE winter term of the Massachusetts Agricultural College closed on Wednesday. The spring term begins April 7th.

OVERFEEDING either animals or soil does not pay any better than does underfeeding. In the "golden mean" there is the most gold.

BUSH or corn fodder can be hauled conveniently upon a couple of long poles fastened to the axle of a pair of front wagon wheels.

WATER can sometimes be reached by driving a perforated iron pipe horizontally into the bottom of a hill near the house. Place a tub under the end of the pipe.

WITH strawberries more than with most other fruits, success depends to a very important degree upon the varieties chosen. Get the best advice for your soil, locality and market.

THOSE who have young chestnut trees located where the product can be protected from thieves will do well to graft the trees to the Nubno or Paragon varieties this spring. Scions can be obtained of nurseriesmen.

FARMER SLACK delights in auctions, and an occasional bargain consolers him for the expenditure of much time and considerable money spent for stuff that nobody would think of buying anywhere else. Mrs. Slack thinks the safer plan would be to leave the pocketbook with her.

THE Market Gardeners of Boston are taking a lively interest in the agricultural schedule of the new tariff bill. Petitions have been circulated and considerable personal effort expended by W. W. Rawson and others toward securing the full rates of duty on vegetables imported from other countries.

ODD jobs about the farm can be done when the weather or circumstances do not permit regular farm work. When nothing can be done to advantage, even a dollar a day is worth considering, when saved by doing painting, carpenter work, or general repairing. To be sure, a tradesman would do more in a given time, but in winter time is far more plenty than money on the farm.

LIVE and let live, but not live and let others live better than yourself. Buy as cheap as you can and never fear but that the dealers will make profit enough. The dealer should come down to the farmer's level of profits or the farmer should go to headquarters to make his purchase. The average farmer sells at wholesale prices while he buys at retail. This plan should be turned squarely around.

COL. FRANCIS H. APPLETON of the Governor's Staff and President of the New England Agricultural Society, will be chief marshal of the procession at the dedication of the Shaw Memorial on Boston Common, May 31st. A large number of State Militia will take part in the parade. The principal address will be given by Prof. Wm. Jones of Harvard, and the response by President Booker T. Washington of Tuskegee Institute, Alabama.

THE new suggestions for Agricultural Societies, as outlined in another column, will no doubt be adopted by some of the organizations whose annual fairs do not pay expenses. A division of the premiums among hall exhibits, field meetings, institutes and special exhibitions will involve important changes. Societies which adopt the plan would have little use for extensive grounds, and would probably enable the societies to keep the expenses safely within their income. If the plan is adopted by many of the smaller societies the patronage of the greater fairs, like those at Portland, Worcester, Providence and Brockton, will be largely increased, since the public interest will be less divided by the multitude of small copies of the principal shows.

STATE OF OHIO, CITY OF TOLEDO, } ss.
LUCAS COUNTY, } ss.

FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & CO., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that can not be cured by the use of H. L. M. CATARRH CURE.

FRANK J. CHENEY,
Sworn to before me and subscribed in my presence, this 6th day of April, A.D. 1897.

A. W. GLEASON,
Notary Public.
Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.
Sold by Druggists, 75c.

TOPICS OF THE WEEK.

Great floods continue to harass the dwellers in the valley of the Mississippi. The levees have broken down in many places from the pressure of the high waters and thousands of acres of farm lands are flooded. Relief boats pick their way through the tree tops to rescue the people. Great loss of life is reported and much property has been destroyed. The river flood at last account was falling slowly.

GET ready for the spring rush.

•

The Dingley tariff is now before Congress and will soon be sent from the House to the Senate with a reasonable probability of passing both branches, although in a more or less amended form.

As explained by the promoter, the bill is calculated to increase the national revenue sufficiently to meet the expenses of Government, and the intention is also to place the tariff in such a way that certain industries will be favored. The measure is much like the old McKinley bill in the nature and amount of the duties as now specified. Quite heavy duties are placed upon imported farm products.

More and more encouraging grow the commercial signs of the times as one token after another indicates that the country is at last recovering from the long depression. The best sign noted this week is the advance in price of many American investment securities. Interest rates have advanced somewhat. The prospect of a protective tariff is now regarded as settled and business men expect that certain important New England industries will be stimulated thereby. Business payments and collections are better. Dry goods, wool and leather goods are selling well. The higher prices for wheat are maintained and the lumber situation is encouraging.

The great exhibition of the coming year will be the State Centennial held at Nashville, Tennessee. Beside the World's Fair at Chicago, it will be of limited scope, but it will nevertheless be a large and attractive exhibition, and will afford a chance to get a good idea of the new South and its wonderful commercial expansion. It will represent not only the industries and enterprises of the state, but of the whole South. Northern industries promise to be well represented also. The agriculture of the new South, which has been making rapid progress of late years, will be much benefited.

The situation at Crete becomes rather less warlike as time goes on. A compromise is likely to be made giving the administration of the island to Greece with certain rights to be retained by Turkey. It is stated that the son of the king of Greece will be made governor.

Spring Exhibition,

FLOWERS AND VEGETABLES DISPLAYED AT HORTICULTURAL HALL.

Flowers and vegetables completely filled both the upper and lower halls of Horticultural Building this week, in the occasion of the four days' exhibit from Tuesday to Friday inclusive. The upper hall was occupied with flowers; roses by David Nevins; the Bussey Institute exhibit, polyanthus, narcissus, freesias, jonquils, crocus and hyacinths, cyclamens, all were worthy of special note.

In the lower hall pinks, cut roses, violets and a fine crimson rambler rose, were conspicuous.

The apple showing was good, apples kept in cold storage were included and exhibitors were required to describe the conditions and method of keeping, in order that the show shall be of the greatest possible value to others than exhibitors. O. B. Hadwen had many varieties, including Mackintosh. Other leading exhibitors, G. V. Fletcher, H. R. Kenney, F. J. Boyden, J. Stone, D. Moore had prize cucumbers; H. R. Kenney, radishes; A. F. Coolidge, dandelions; Geo. Sander, sun, rhubarb; Jackson Dawson, attractive plants of strawberries; Aaron Low, a splendid show of potatoes.

The Grain Crop of 1896,

The Government crop report gives the amount of wheat in the farmers' hands at 88,000,000 bushels. Other estimates make the amount somewhat larger. The yield was generally short and the quality somewhat impaired.

The oat crop was generally poor both in quantity and quality, and the weight per bushel, 28.6 pounds on the average, was low. But three or four states, mostly Northeastern, report a good crop.

Maine grew nearly six million bushels, New Hampshire more than one million, Vermont four and three-fourths millions, Massachusetts about 550,000, Rhode Island and Connecticut together about three-fourths of a million bushels. Nearly the entire New England crop was used where grown.

The corn crop of 1896 exceeded by more than six per cent that of 1895, the largest ever obtained, in spite of a generally reduced acreage and of a partial failure of the crop in the South, where scarcely a state raised more than enough corn for its own consumption, Texas being the next sufferer.

STEPHEN HOYT'S SONS of New Canaan, Conn., are a thoroughly reliable firm and one of the most extensive nursery establishments in New England. Their new catalogue is at hand giving a very complete list of varieties. Peaches seem to be a specialty. Their advertisement appears in another column.

The emigration of thousands Japanese students to the Hawaiian Islands has thoroughly alarmed the little republic, and recently a shipload of the alleged students were sent back to Japan on charge of gaining admission through fraud.

NEW ENGLAND grown tree stock has its advantages. The Old Colony Nurseries of Plymouth keep it.

The Mississippi has overflowed to a width of forty miles at Memphis.

It makes you well.

Dr. Greene's Nervura is Just What You Need for the Blood and Nerves.

IT MAKES YOU WELL.

Life is not Measured by Years, but by Strength and Vigor. Dr. Greene's Nervura, the Only Remedy which will Give You the Health, Strength and Vigor of Youth.

How many who ought to be in their prime, bear evidences in looks and feelings of old age? It ought never so to be. Strength and vigor should be as perfect as youth. If it is not so, something is wrong with you. You have weakened yourself in your mode of life or occupation. There is no sight so beautiful as vigorous maturity and fresh and healthy age; nor one so sad as a prematurely decayed youth. If Springtime verdure, Summer ripeness, and Autumn ripeness, are the three types of the year, so are the freshness of youth and the strength, vigor and maturity of adult life fitting incidents of a proper life.

Nothing makes these women. Try it and get back your strength, energy and youthful vigor.

Remember that Dr. Greene's Nervura blood and nerve remedy is a physician's prescription endorsed and recommended by the ablest doctors everywhere. Dr. Greene's Cathartic Pills are the only perfect pills for biliousness and con-

ditions.

Dr. Greene's Nervura is the most successful physician in curing diseases, and can be consulted

anywhere. Nothing makes these

strong nerves, rich red blood, and restoring the snap, energy and elasticity to the nerve-weakened, exhausted and run-down system. It makes the old and middle-aged feel young and vigorous, restores the lost vigor lost by excesses and indiscretions; it gives strength, energy and power to those

who work. It makes strong men and vigorous

free, personally or by letter. Nothing to pay for consultation, examination or advice, and the low price of his wonderful curative medicines places a sure cure within reach of everybody.

Those Free Seeds.

This paper has often insisted that the distribution of free seeds by the Government is an evil, and that the practice should be stopped. A correspondent sums up the situation so forcibly and comprehensively that we print his argument below.

The legislation that permits favoritism to a certain class of people is not only wrong in principle and unjust in action, but cannot fail to work evil. This phase of the question alone is sufficient to demand the abolition of the practice. Even more damaging, if possible, is the opportunity for its use for political effect, making it appear that the government depends upon personal prejudices.

While costing the people of the United States a very large amount of money annually, it does not meet satisfactorily the purpose for which it was provided. A man who never would use some particular seed is just as likely to get that as the kind he would plant. The original intention was to obtain from those who received these seeds such reports as would be useful in the advancement of the agricultural and horticultural interests of the country.

Government records show that there are absolutely no returns of any value whatever.

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According to Chairman Peters of the Massachusetts Commission, arrangements will be made by which pasture cattle will be examined by physical inspection and marked with an aluminum tag attached to the animal's ear. The tag is so made that it cannot be detached without breaking. With the tag the young stock can be pastured in an adjoining state and returned in the fall without trouble.

AT THE CATTLE MARKETS.

The law indefinitely restricting the use of tuberculin has gone through with one amendment, which will allow the testing of cattle for sale in the public markets at Brighton, Watertown and Somerville, and Dr. Peters asserts that in due time the market will probably be adopted which will assure that cows bought at these markets shall be free from tuberculosis.

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THE HOUSEHOLD.

THE TENDRIL'S FAITH.

Under the snow in the dark and the cold
A pale little tendril was humming;
Sweetly it sang 'neath the frozen mold
Of the beautiful days that were coming.

"How foolish your songs," said a lump of clay;
"What is there, I ask, to prove them?
Just look at these walls between you and the day—
How can you have power to remove them?"

But under the ice and under the snow
The pale little sprout kept singing,
"I cannot tell how, but I know, I know—
I know what the days are bringing;

"Birds and blossoms and buzzing bees,
Blue, blue skies above me;
Bloom on the meadow, and buds on the trees,
And the great, glad sun to love me."

Then a pebble spoke up: "You are quite absurd."

"It is with your song's insistence;
For I never saw a tree or a bird,
So of course there are none in existence."

"But I know, I know," the tendril cried
Till lo, from its prison glorified
It burst in the glad spring season!"

—Ella Wheeler Wilcox.

LAWRENCE COSTER.

It is a drowsy, sleepy old town—the town of Haarlem in Old Holland. The streets are so narrow you can snake hands with your neighbor across the way from your own doorstep.

The quaint old houses have gables everywhere, and the grass grows in the middle of the street.

On one of these grass-grown streets there is one old house that looks older than even its oldest neighbors. There are tiny panes of glass in the windows, the roof projects over the tiny sidewalk, and the whole building looks as if it would surely topple over and fall.

Should you visit Haarlem this is one of the first streets that would be shown you; for it was here that Lawrence Coster, the man who first invented typesetting, lived.

Now this Lawrence Coster was very fond of reading. To be sure, there were no printed books in those days; but Coster was the warden of a little church near by, and in the library of this church there were several written books belonging to the priests.

These written pages, dim and stained though they were with the dampness of years upon years, the old man would read over and over until he knew them nearly by heart.

Now Lawrence Coster had three little grandchildren with whom he used to love to play. He loved to tell them stories too, and he was most anxious that they should learn to read. Of course they had no books; so he taught them to read the names on the houses, the letters on the doors, the verses on the church walls, and often he would mark letters for them with a bit of burned wood.

One day Lawrence Coster was walking in the woods. It was a soft sunny day when all the world seemed hushed and still. The old man sat down under a tree to rest and to think of the days so long ago when he was a little boy and had played in this very forest.

As he sat there thinking he picked up a piece of bark and began to carve it. He carved A B C on the bark, then threw it down. Just then an idea came into his head. He picked up the bark and looked at it.

"Why not cut these letters out and carry them home to the children?" he thought. "Why not cut out all the letters of the alphabet and teach them to read by them?"

So the old man carved and carved. All the afternoon he carved; and when the sun went down he had a pocketful of letters for the little folks at home.

How delighted the children were! and what fun it was to put the letters together and make words of them!

Day after day the old man carved letters till by and by the children knew them as well as did their grandfather; and all this time he had grown more and more skillful in letter-making.

One day he made some very tiny letters—enough to make several words—and beautifully made they were, too. The bark was soft and juicy, and his knife was sharp. "Really," the old man said, "these are the best I have ever made."

He wrapped them up in a bit of old parchment and hurried home with them to the children. He unfolded the old parchment to show the letters.

"O Grandpa! See!" cried the oldest little boy. "For there on the parchment was the print of several of the letters as plain as plain could be! To be sure, they were reversed, but there they were."

The old man's heart beat fast. A thought came into his mind. Could he not make some letters and press them on a piece of parchment and make them read like the pages in the library at the church. And if such a thing could be done, then sometimes books might be made, and people everywhere might read!

From that day the old man worked at letter-carving. He made them out of solid hard wood now, reversed so that when he pressed them on parchment they looked as they ought to look.

Then he made a kind of ink in which he dipped the letters. One by one he would press them on the parchment, till at last he had a whole page of printed words.

Of course they were rough and crude and clumsy. But they were words, and the children could read them! He showed his printed page to his neighbor.

borts. He showed them how he did it. He wanted them to print for their children too.

"Why should we?" they said. "Children do not need to read."

And some of his neighbors were really frightened. They ran away when he showed them the printed page and told them what it said.

"He is a witch!" they whispered, and they ran into their houses and barred their doors.

Then Coster told his neighbors no more about it; but all by himself, up in his attic, he worked and worked and printed and printed.

He had to take one letter up at a time, press it on the glue-like ink he had made, and then press it on the parchment. Of course, it was very, very slow work. It would have taken him all day to print one page of one of our books; but he had courage and perseverance, and he loved to make the pages.

"If I can make this succeed," he would say to himself, "then everybody in the world might have a book of his own to read from. Everybody would want to learn to read then, and who knows what a difference it might make!" For, you see, the old man was sure everybody would love to read, as did, if they were only given a chance.

—Primary Education.

THE BLUEBIRD.

I know the song that the bluebird is singing
In the apple-tree where he is swinging.
Brave little fellow! His skies may be dreary,
Nothing cares him while his heart is cheery.

Hark! Is there ever so merry a note?

Listen awhile, and you'll hear what he's saying
Up in the apple-tree swinging and swaying.

"Dear little blossom down from the bough,
Young and green, of winter I know,

Hark! While I sing you a message of cheer;

Summer is coming and springtime is here,

Little white snowdrop! I pray you arise,

Bright yellow crocus! Come open your eyes;

Sweet little violet! You're all bold;

Daffodil! Daffodil! say, do you hear?

Summer is coming and springtime is here.

—Sel.

Fine dimity showing a ground of white with dainty figures in delft-blue was the material chosen for this stylish waist which represents one of the newest modes. The white linen collar is adjustable and can be removed to have laundered when necessary, or when made to match the waist, can be permanently secured. A handsome stock collar of ribbon is tied under the collar, finishing with a stylish bow at the centre-back. A leather belt closing with metal buckle encircles the waist. Five small box-plaits are laid on each side of the box-plait in centre-front. This spread, gradually allowing an easy and graceful fullness over the bust which is confined again at the waist line, the lower edge of the waist being concealed under the dress skirt. The back is arranged at the top in box-plaits and joined to a yoke lining having a straight lower edge, thus giving a durable finish that will not lose its shape when laundered. The sleeves, of modified dimensions, are gathered top and bottom, deep cuffs, that turn backward, finishing the wrists. This stylish and becoming waist is a pronounced feature of the season's models and can be developed prettily in percale, dimity, cambrie, lawn, gingham, etc., as the variety of these goods to choose from is particularly attractive this season. To make this waist for a lady in the medium size will require three and one-fourth yards of thirty-six inch wide material. The pattern, No. 6999, is cut in sizes for a 32, 34, 36, 38, 40, 42 and 44-inch bust measure, and retails for twenty-five cents, with coupon, ten cents.

Cord-edge and plain velvetene and mohair skirt bindings still obtain for skirts of woolen fabrics, says the Dressinator. Cotton and silk skirts may be finished with inch-wide plaitings of the material. Cable cord is used for the rope shirrings made in the waist of wash gowns. Skirts are held back by either silk or cotton elastic adjusted about twenty inches below the belt.

Tailors' canvas is still liked for interlining revers and standing collars. Alpaca is a favorite skirt facing. Plain and striped cotton-back serges and satins and also Farner satin are sold for coats and capes, though preference is always given to silk fabrics.

Large buttons used either for closing or decorating coats or jackets should be stayed by small flat buttons sewn in with the buttons through the lining and cloth. In very heavy cloth button-holes are machine-made instead of being worked by hand. The button-holes that give the best service are those worked over a cord. The seams of unlined coats are pressed flat and bound with silk galloon.

The new spring skirts are eight gored, tight on the front and sides and have the fullness pushed well to the back, says an authority. They are lined all the way through with rustle cambric and then faced with some heavier stiffening to the depth of nine inches. Genuine haircloth is the best stiffening, but while very much reduced it is still the most expensive one. There are a number of quite good substitutes, however, that can be bought from 15 cents a yard up. A new Paris lining resembling pique, only much stiffer, is considered very good. No one trouble to whip the seams of a skirt any more. Notching really looks better, takes less trouble and saves time in making.

"When planting trees in the lawn," writes Eben E. Rexford, "we must remember that the tree of today is only a hint of what the tree ten or twenty years to come will be. The trees we plant today, perhaps five or six feet tall, and with a spread of branches not more than two feet across, should in a dozen years from now stand twenty-five feet high, and have a spread of fifteen or twenty feet. If we plant them but ten or twelve feet apart now we will have, at the stage of development they are expected to reach in a dozen years, a perfect thicket of branches overhead and dense shade beneath. Never plant with regard to 'regularity,' that is, 'so many feet apart each way,' as the rule has been laid down for orchards.

"If you want several shrubs on a small lawn, and the space is too small to allow you to set them as far apart as they ought to be, in order to give them the benefit of space individually, group them, that is, plant them in a clump. The idea is to make the three, or four, or five shrubs which you plant in the group produce a unity of effect which will give much the same impression that one well-developed specimen would.

By selecting varieties in which there is contrast of color as to foliage, as well as flowers, satisfactory results may be secured. In the irregularity which produces charming effects there is always a method and a plan."

One of the trying things a careful woman has to undergo is the accumulation of skirts whose bindings become soiled and frayed, says the New York Observer. The old binding may be replaced by a new one, the skirt carefully brushed and pressed ready for another period of service. But there comes a time when the skirt is too short, and perhaps too badly soiled to be presentable.

Rip it apart carefully, take out the stiffening, and wash it. If it is faded, or for any reason you wish to change the color, dye it some darker shade with a reliable dye. Any woolen goods will take a pretty black, and a black skirt never comes amiss in any woman's wardrobe. When rinsed and hung on the line until almost dry, press it on the wrong side until quite smooth and free from wrinkles, and put a new canvas facing around the bottom. Piece out the goods to make it the proper length, cover the piecing with a bias band of silk, braid, passementerie, or other material used for trimming, and you will be surprised to see what a neat and stylish garment you will have.

When only a little good material remains in a dress, it can often be used to advantage in making a dress for a child. There are the dainty gimp costumes with the skirt and sleeveless waist of one material and the gimp of another. Yoke and sleeves of a contrasting material make the dress look better than if only one kind of goods is used. A great deal may be done to make the dresses which are outgrown large enough. If a waist is too short, a belt may be made, and sewed to the lower edge with the upper edge of the skirt gathered to it. The sleeves may be pieced down or new cuffs added. Dress skirts are length-



and often seem to be greater than she is able to bear, This is doubly true when sickness comes to her and leaves in its wake that condition of mind and body which bespeaks a nervous condition.

The most fruitful causes of these conditions are:

FEMALE COMPLAINTS,

BRIGHT & DISEASE,

URINARY TROUBLES,

GENERAL DEBILITY,

AND MALARIA.

A sure and effective remedy for these and all diseases resulting from disordered Kidneys and Liver is

Womans Safe Cure

It is a purely vegetable preparation that has cured thousands.

Large sized bottles or new style smaller ones at your nearest store.

color is much prettier for this use than is a very delicate green."

Hulled Corn Soup.—There is a distinctive flavor to hulled corn that is especially agreeable to many, particularly to those who have been accustomed to this dish in childhood. But often the corn is not quite tender, or one wishes to serve it in a more modern way, and a soup or puree will be found to be both novel and delicious. If the corn is tender, mash it until fine and sift it through a puree strainer; otherwise chop the corn fine before sifting. Then gradually stir in hot milk enough to make it the consistency of any cream or vegetable soup. Put it on to boil and add salt and pepper to taste, and a generous tablespoonful of butter for each quart of the mixture. Serve it with croutons. It will have a slightly granular texture, and, if this is not liked, you may add the usual flour thickening. One tablespoonful of butter and one tablespoonful of flour cooked together, and stirred into the hot soup. If a corn puree is desired, simply mash and sift the corn, heat and season to taste with butter, salt and pepper, and serve as a vegetable, or as a garnish for sausages or pork chops.—Am. Kitchen.

"The greater number of cooks have but one way of making and flavoring apple pie," says a PLOUGHMAN correspondent. The apples are peeled and sliced on to an under crust; sugar, nutmeg and cinnamon added, and the pie is covered with a crust and carefully baked until the apple is soft. This is all right for one way, but I will tell you of many ways that are better, especially in the last of the winter, and spring, when the apples get a little tasteless and everyone is rather tired of the common apple pie.

Great-Grandma's Pie.—Lay the apples on to an under crust as usual; put a few grains of salt or bits of butter, use allspice for seasoning, sprinkle on an even teaspoonful of flour, add two large tablespoonsfuls of molasses and an upper crust. Bake about an hour in a moderate oven. Eat hot or cold.

Grandma's Pie.—Make and sweeten the pie as usual; for flavoring use vanilla seed or rose extract. Eat this pie cold. Bake it well, as an apple pie is richer tasting if long baked.

Aunt Lydia's Favorite Pie.—Use maple sugar for sweetening and add half a teaspoonful of vanilla.

Apple and Fruit Pies.—Add to each apple pie on a large plate, one-half cup of canned or preserved quince, raspberry, peach or pineapple.

Apple Custard.—Put into an agate or porcelain kettle sweet apple enough for two or three pies, add water and cook for two or three hours; half an hour before removing from the stove add two ounces of dates for each pie. Sift through a colander and use the same as stewed pumpkin, only do not use any spice except a very little nutmeg.

An Experienced Housekeeper.—Aries a place for the months of July and August, and September. Has had success as manager of the house. Can give information to those who now employ her and to whom she will return the last of September. Address MRS. VINAL, BOX 450, WORCESTER, MASS.

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AGENTS, either sex, throughout New England on staple line of family articles. For particular address, F. A. PUTNAM, 63 UPHAM STREET, MELROSE, MASS.

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Positively cured by wear

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PURE GROUND BONE MEAL

FOR LAWNS, PLANTS, AND GARDEN PURPOSES.

Also for Poultry.

Put up in 100 lbs. bags, 50 lbs. boxes, address THOMAS A. STETSON, RANDOLPH, MASS.

Packed full of everything a housekeeper either young or old, wishes to know.

\$1.50.

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The Funniest Book of the Century

"SAMANTHA AT SARATOGA; OR

RACIN' AFTER FASHION."

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